



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,450	02/19/2002	Jamal Ramdani	219625US99DIV	1202

22850 7590 09/11/2002

OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT PC
FOURTH FLOOR
1755 JEFFERSON DAVIS HIGHWAY
ARLINGTON, VA 22202

EXAMINER

BAUMEISTER, BRADLEY W

ART UNIT PAPER NUMBER

2815

DATE MAILED: 09/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
10/076,450

Applicant(s)
Ramdani et al.

Examiner
B. William Baumeister

Art Unit
2815



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Feb 19, 2002
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 144-237 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claims 144-237 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

Art Unit: 2815

DETAILED ACTION

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 144-153, 158, 178-182, 233-235,¹ drawn to a multilayer stack comprising layers of a substrate/amorphous oxide/buffer/compound semiconductor, classified in class 257, subclass 190.

¹More strictly speaking, only claim 233 is actually directed towards Invention I, while the other listed claims (144-153, 158, 178-182, 234 and 235) are more appropriately classified as being directed towards Invention II. However, these claims have been grouped with claim 233 of Invention I because these claims only set forth nominal structural limitations relating to the further included components (e.g., merely reciting “component” or interconnected electrical components”), and the examination of these claims in association with Invention I would not constitute an undue burden, if Applicant elects the invention of Group I.

If Applicant elects the Group II invention, claims 144-153, 158, 178-182, 233-235 would be properly classified as belonging to that group. However, an election of the Group II invention would require that the Examiner further reconsider the outstanding restriction requirement to determine whether all of the claims of the Group II invention should be further restricted into multiple inventions on the basis species or sub-combinations usable together.

Art Unit: 2815

- II. Claims 154-157, 159-166, 183-192, 196232, 236 and 237, drawn to the multilayer stack of Invention I and further having components formed in at least one of the layers, classified in various classes, such as 257/1+ and 372/1+
 - III. Claims 167-177 and 193-195, drawn to various methods of making multilayer structures, classified in class 438, subclass 1+.
2. The inventions are distinct, each from the other because of the following reasons:
- a. Inventions III and I-II are related as process of making and products made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case unpatentability of the Group I-II inventions would not necessarily imply unpatentability of the Group III invention, since the devices of the group I-II inventions could be made by processes materially different from those of the Group III invention. For example, as an alternative to epitaxially growing the monocrystalline accommodating buffer layer on the substrate as set forth in the method claims, the buffer layer could be formed on a temporary substrate, wafer-bonded to the substrate, and the temporary substrate could thereafter be removed.
 - b. Inventions I and II are as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has

Art Unit: 2815

utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combinations as claimed do not require the particulars of the subcombination as claimed because various claims directed towards the respective combinations do not require various specific limitations of the subcombination, such as the specific substrate or buffer compositions as set forth in various ones of the invention I claims. As evidenced by the wide array of specific components claimed (e.g., resistive vs active components, analog vs digital circuits, electrical &/or optical devices), the subcombination has separate utility in combinations other than the particular combinations of the respective Invention II claims. The subcombination also has separate utility such as employing the compound semiconductor layer as a further buffer layer for the subsequent growth of device layers thereover without providing any components in the claimed compound semiconductor layer itself.

3. Because these inventions are distinct for the reasons given above, the inventions have acquired a separate status in the art because of their recognized divergent subject matter as shown by their different classification, the search required for the invention of any one Group is not required for the other Groups, and/or separate examination would be required, restriction for examination purposes as indicated is proper.

4. Various independent claims link(s) inventions I and II. The restriction requirement between the linked inventions I and II is subject to the nonallowance of these linking claim(s).

Art Unit: 2815

Upon the allowance of the linking claim(s), the restriction requirement as to the linked inventions shall be withdrawn and any claim(s) depending from or otherwise including all the limitations of the allowable linking claim(s) will be entitled to examination in the instant application.

Applicant(s) are advised that if any such claim(s) depending from or including all the limitations of the allowable linking claim(s) is/are presented in a continuation or divisional application, the claims of the continuation or divisional application may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Where a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. *In re Ziegler*, 44 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Art Unit: 2815

INFORMATION ON HOW TO CONTACT THE USPTO

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to the examiner, **B. William Baumeister**, at **(703) 306-9165**. The examiner can normally be reached Monday through Friday, 8:30 a.m. to 5:00 p.m. If the Examiner is not available, the Examiner's supervisor, Mr. Eddie Lee, can be reached at (703) 308-1690. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink, appearing to read 'B. William Baumeister', with a stylized flourish at the end.

B. William Baumeister

Patent Examiner, Art Unit 2815

September 7, 2002